FEDERAL ECONOMIC INSTRUMENTS AND THE ACHIEVEMENT OF ENVIRONMENTAL OBJECTIVES

An Overview of Opportunities and Achievements

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OVERVIEW

Some work has already begun in Environment Canada to identify the range of economic and fiscal instruments available to us and to examine potential ways of modifying them in support of environmental objectives. A 1986 Environment Canada study reviewed nearly one thousand policies and levers within the federal government and selected a target list of one hundred which could be reasonably modified to be more supportive of sound environmental planning and resource management. These include: 1) regulations, 2) fiscal incentives, 3) sectoral policies 4) regional development incentives, 5) management policies for real property 6) operational guidelines and 7) research and information activities. A complementary list was prepared in 1984, looking at a range of regulatory, fiscal and economic instruments available to the federal government to achieve environmental quality objectives.

A number of opportunities have been identified and some actions have been taken to use or influence programs to aid in advancing environmental goals. Some of these are summarized below with examples of instances where work has shown the nature of the impact, intended or unintended, on environmental objectives.

1) influence on resource use - **wheat quotas** allocated on an area cultivated basis, were found to encourage ploughing of hillsides and other unsuitable areas resulting in severe degradation. The department has made representations to the Wheat Board Review.

2) blocking adoption of improved techniques - many farmers' associations contend that adoption of new pesticides which may be less environmentally damaging is impeded by the pesticide **licencing process.**

3) influencing the economics of recycling - **low stumpage fees** contribute to making wood fibre less expensive than recycled materials.

4) directing the pattern of development - the availability and conditions under which **assistance to water and sewage infrastructure** are provided can direct urban expansion towards or way from environmentally sensitive areas or valuable resources.

5) cost of polluting - **penalty levels** may be so low that they can be assumed as one of the costs of doing business.

6) incentives to investment in conservation - conservation improvements are frequently ineligible for **loan assistance** (farm credit, private investment loans) due to long repayment terms and lack of collateral.

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7) **incentives** countering other incentives - crop subsidies and wildlife conservation incentives in the Prairie region have been found to counteract each other in their impact.

These specific items are some of the findings of work done to identify the impact of levers as incentives or desincentives. In addition, a number of other instruments have been identified which may be of service and warrant further investigation as possible means to better mobilize the economic system in support of environmental objectives. These include:

1) the use of **tradeable permits** or **marketable quotas** for pollutant discharges. This would involve establishing legislated ceilings and using a market mechanism to allocate quota rights. This has the prospect of focussing pollution reduction improvements where they are most economic and reinforces the polluter pays principle. A good prospect for the use of this mechanism is the achievement of the 1994 SO2 emissions ceiling for the acid rain program.

2) **resource pricing** - many of the base resources (water, wildlife, soil, forests) are underpriced relative to their replacement cost, if they are priced at all. Development of the means to price such resources has great potential to allow them to be adequately valued when decisions are taken regarding their use.

3) **development rights** - the purchase or sale of development rights or the establishment of a market in development rights is a method that has achieved some success in United States. It is applied when governments wish to preserve a certain quantity of a resource (forest, agriculture land, wildlife habitat) but do not wish to penalize unduly those who have lost the rights to develop.

4) use of tax instruments - a number of opportunities exist to use tax instruments to influence decisions which affect the environment. These include **differential taxation** for different types of industries or technologies, creation of special taxes on polluting substances (e.g., a **carbon tax**) and **modification to current tax instruments** involving the conditions of write off for investments in conservation, exemption, etc. Taxes can be used as a mean of raising revenues from undesirable activities and re-directing revenues to desirable ones. They can also influence decision-making and consumer behaviour.

PROJECTS AND PRODUCTS

Activities of the Sustainable Development Branch and its predecessor which have analysed and influenced the impacts of federal government

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actions on environmental planning and resource management have been broadly based and comprehensive. These activities may be grouped into five categories:

1) **Concepts and Framework Development, Program Inventory;**
2) **Policy Development;**
3) **Procedures and Implementation;**
4) **Analyses of Federal Program Impacts on Resource Management;**
5) **Methods Development;**

Projects and products under each of these categories are discussed in turn.

1. **CONCEPTS AND FRAMEWORK DEVELOPMENT, PROGRAM INVENTORY**

a) **Environment-Economy Integration: Introducing the Concept**: In response to the Federal Environmental Quality Policy Framework (December, 1986), this primer was prepared for the Committee of Regional Executives, Environment Canada (September 1987) as an orientation guide for using federal policies and programs to integrate environmental considerations into economic activities. After a brief overview of what environment-economy integration means in practice, the report reviews a variety of federal economic instruments which could be used to facilitate environment-economy integration, with a focus on Federal/Provincial/Territorial Economic Agreements.

b) **Identification of the Impacts of Federal Programs on Environment and Resources**: Work on the development of a framework re: the impacts of federal actions on land use and management (in support of the Federal Policy on Land Use) contains many concepts useful to modification of the impacts of government actions for achieving environmental objectives. The report, **The Identification of Impacts of Federal Programs on Land Use**, was designed to assist federal program managers in determining whether their programs had the potential to influence land use in Canada. The publication described the ways in which the federal government influenced the land resource and the types of impacts found to occur in each resource and user sector.

c) **Federal Programs with the Potential to Significantly Affect the Land Resource**: In support of the Federal Policy on Land Use, this report identified and described the approximately 100 federal programs with the greatest potential to significantly affect the use, management or capability of the nation's land resource. It outlines the functions and overviews the possible land-resource effects of each program. As a follow-up to this project, managers of the programs identified were asked by the Interdepartmental Committee on Land (ICL) to complete questionnaires explaining what mechanisms they have in place to ensure that their programs follow the Guidelines of the Federal Policy on Land Use.

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2. POLICY DEVELOPMENT

a) **Federal Policy on Land Use (FPLU)**: This policy broadly addresses environmental planning and natural resource use in Canada. Federal government programs can affect environmental planning and land management in many ways, including the purchase, sale, lease and management of land; construction activities; regulatory activities; financial policies; sectoral and regional subsidies; and research, information and planning activities. In recognition of this, the Federal Policy on Land Use was drafted by a federal task force and approved by the Federal Cabinet in 1980, with the goal of ensuring that federal policies and programs, as well as the management of federal Crown lands, contribute to the sustainable use of the nation's land resource. The FPLU provides a series of policy statements and guidelines vis-à-vis land use, which are to be applied in the planning and administration of all federal activities. Implementation of the Policy is coordinated by the Interdepartmental Committee on Land (ICL).

b) **Draft Federal Policy on Wetland Conservation (March 1989)**: A draft Federal Policy on Wetland Conservation was developed to promote the conservation of Canada's wetlands and to sustain the ecological and socio-economic functions of wetlands, both now and in the future. The policy will promote wise use, management and sustainable utilization of wetlands through adopting an anticipatory and preventative approach, developing strong partnerships, establishing wetlands as a factor to be considered in the daily business of government, promoting integrated planning and other means. A draft implementation plan has been prepared. This policy is currently under review before final approval for implementation.

3. PROCEDURES AND IMPLEMENTATION

a) **Sustainable Development in ERDAs/EDAs**: The opportunity to build environmental considerations into federal economic decision-making was identified in the Federal Environmental Quality Policy Framework (December, 1986). In response, the Sustainable Development Branch has produced an interim report on specific wording and procedures for building sustainable development concepts and criteria into individual federal/provincial/territorial Economic and Regional Development Agreements (ERDAs/EDAs. It is for use both by DOE and other government departments in the negotiation and implementation of agreements.

An Interim Report covers four major areas in incorporating environmental concerns into ERDAS/EDAs including (1) the environmental concepts and phrases that must be incorporated into ERDA agreements and sub-agreements during the negotiation

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process, (2) an overview of how environmental considerations can be effectively dealt with during the implementation process, (3) specific environmental and resource questions to be included in applications for funding, and (4) review criteria for use by officers in assesing projects with respect to environment/economy integration. A case study applying the environmental review criteria is also included.

This procedure has been implemented in the NWT, Yukon and Atlantic provinces, and DOE representatives from those regions sit on implementation committees for the agreements.

b) Federal Policy on Land Use Guidelines Manual (March, 1989): The purpose of the document is to assist federal program managers in screening the potential land use impacts of their programs, projects or policies at the earliest possible stage of planning in support of the Federal Policy on Land Use (FPLU). It provides practical interpretation and "how to" instructions to progam managers for assessing the possible land resource impacts of programs under each of the 10 FPLU Guidelines.

The procedures outlined in the manual are directed at a broad range on federal program managers responsible for: establishing a given program and overseeing its implementation, modifying existing programs, developing federal/provincial agreements, reviewing project or development proposals, assessing research proposals, or undertaking long range strategic planning for programs. The outlined procedures may be used in conjunction with departmental environmental screening procedures or, if appropriate, be incorporated directly into existing screening procedures.

c) Advice and Analytical Support to Federal Departments for Implementation of the Federal Policy on Land Use (FPLU) Under the Interdepartmental Committee on Land (ICL): In addition to development of the manual, the Sustainable Development Branch and its predecessor has provided direct advice to many Federal departments on incorporation of environmental and natural resource considerations into their programs. Because of the wide range of federal activities that have potential to impact on the resource base, implementation of the FPLU has been tailored to various policies and strategies, integrated into new or existing departmental screening processes and directive manuals.

Examples of activities in each of these categories include:

- **policies and strategies:**

. input to the development of a federal policy for archeological resources by the Department of Communications to ensure that the FPLU was applied to federal heritage lands;

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. input to revisions of the Canadians Wheat Board Quotas which would address land management problems of the existing system. (The proposed changes would result in a shift from an acreage-based system to a system based on grain inventory.);

. input to the development of the Fish Habitat Management Policy to ensure compatibility with the FPLU Guidelines.

- **screening processes:**

. advice and support provided to DPW and EMR in amending their screening procedures to ensure that land use impacts are being fully considered by program managers;

. advice and technical support being provided to DFO and DND in revisions to/or development of new enviromental screening guidelines and manuals.

- **directives manuals:**

. advice and technical support to DOC for ensuring FPLU implementation in its application prócess for radio transmission towers (actions generated by recent CRTC hearings on the construction of radio transmission towers on specialty croplands in the Niagara Peninsula);

4. **ANALYSES OF THE IMPACT OF FEDERAL ACTIVITIES ON ENVIRONMENTAL PLANNING AND RESOURCE MANAGEMENT IN CANADA**

In general, these federal program impact studies have sought to:

. examine the federal presence in a region or the federal role in a resource management issue or problem;

. identify a critical environmental issue and follow the sequence of influence, of federal policies and programs in the issue.

. thus, establish a cause/effect relationship between federal programs and the resource management issue;

. determine the relative importance of federal activities (versus other factors) to the resource management issue(s) and establish which federal activities are the most important.

Studies have analyzed (1) the impact of specific federal activities (e.g., drainage sub-agreements) on resource management, (2) the relative importance of a broad array of federal programs to a specific resource management issue (e.g., fruitland loss), and (3) a comprehensive inventory of the magnitude and diversity of impact of the federal activities on environmental planning and management in one region of Canada (e.g., Renfrew Country).

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Examples of the results from such analyses include:

a) **Eastern Ontario Agricultural Drainage Sub-Agreement**: The report found that the drainage projects approved under the agreement (1) had not been targetted to the most suitable lands, (2) had likely impacted on a significant area of wetland habitat, (3) did not comply with the later **Federal Policy on Land Use**, and (4) in a significant number of cases, would be unlikely to generate future benefits equal to the costs incurred. Subsequent discussions with the Ontario Ministry of Agriculture and Food and Agriculture Canada showed that a much stronger environmental review process would be needed for any federally funded drainage.

b) **Federal Program Impact on Canada's Fruitland Resource**: A series of case studies has shown that the federal government has considerable influence on Canada's scarce fruitlands. Federal policies and activities, as well as ownership and control of fruitlands, affect the allocation, use and management of land capable of tender tree fruit and grape production. Programs such as tree planting, horicultural research, and market stabilization contribute to fruitland maintenance and enhancement. However, irrigation development, industrial incentives and trade policies have had mixed or negative consequences for the fruitland resource.

c) **Canada Mortgage and Housing Corporation (CMHC) Infrastructure Assistance Program**: The study resulted in recommendations to the President of CMHC that future infrastructure assistance programs contain project review criteria which ensure that federal servicing assistance brings about urban development which avoids or makes frugal use of high capability agricultural land, productive forest lands, and other environmentally significant resources.

d) **Modification of Agricultural Subsidies to Achieve Conservation Objectives**: A new project is just under way jointly with Agriculture Canada, Wildlife Habitat Canada and Ducks Unlimited examining new means of directing subsidies in the agricultural sector to achieve multisectoral conservation objectives. This project, focussed on the Prairie region, will provide recommendations which will be used in a re-assessment of agricultural assistance programs in terms of impacts on soil and water conservation, farm economics, wildlife habitat, and free trade objectives.

5. **METHODS DEVELOPMENT; NEW TOOLS FOR DECISION-MAKERS**

a) **Wetlands Are not Wastelands Project:** The project is to develop and test new approaches to measure and demonstrate the value of environmental functions to decision-makers, with the focus on

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wetlands. The project involves methodology development, pilot studies, workshops and ultimately, development of a manual for use by resource planners and officials in assessing wetland change proposals. Methods being tested are willingness-to-pay, an opportunity cost approach, and a cumulative assessment approach. Products thus far include workshop proceedings, methodology paper and 3 regional case studies in (1) Greenock Swamp, Ontario, (2) Minudie (Tantramar Marsh), Nova Scotia, and (3) Cowichan Estuary, B.C.

b) **The Analysis of Land Use Determinants in Support of Sustainable Development**: The project, done in collaboration with the International Institute of Applied Systems Analysis, Laxenburg, Austria, examines the use of supply constraint modelling to test scenarios of development. The focus of the project has been to supply decision-makers with the means of determining the limits and pressure points in a range of possible development futures. The approach allows both the testing of trend-based scenarios and the anticipation of dislocations caused by "surprise" economic or environmental events. The papers are part of the European response to the Brundtland Commission. Products thus far include a methodology paper and proceedings of a working conference in Radzakow Poland. This spatial approach integrates changing demand with known productivity response information to define potential impacts, limiting factors, and intervention opportunities.

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